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A COMPARATIVE STUDY OF THE GRAVEN GLYPHS
OF COPAN AND QUIRIGUA.¹

A PRELIMINARY PAPER.

IN undertaking a study of the hieroglyphs of Central America, I have not gone into it from a feeling of curiosity, nor to burden the literature of the subject with passing thoughts or mere guesses as to the meaning of the characters. The observations which I here record are the result of almost constant association with the inscriptions during the past three years, either in the field photographing and moulding them, or in the workshop and museum reproducing them in plaster, and arranging them for exhibition. I have to thank Professor Putnam and the Peabody Museum for an exceptional opportunity for studying Central American antiquities, both in the field and in the museum. American students have not made as much progress in Central American archæology as those of Europe. Although forming part of our own continent, we have made little effort to explore the old cities, and it is only recently that the Peabody Museum of Harvard University has undertaken to carry on extensive and exhaustive researches at the most prolific source of hieroglyphic inscriptions of which we have knowledge. The ancient inhabitants of Copan, Honduras, appear to have been more literary in character than even those of Palenque. There have been found there twenty-four stelæ, all of which have inscriptions, besides altars, slabs, and hieroglyphic steps in large numbers. Pottery vessels and potsherds have been found bearing glyphs, either painted or engraved. These potsherds have been found in such quantities as to show that thousands of their vessels had hieroglyphic inscriptions. One glyph is found so often repeated on these sherds as to become significant. These researches have already shown the enormous field to be worked before we shall be able to entirely solve the problems relating to the Maya race of Yucatan and Central America. There is only one way by which the hieroglyphs can be deciphered, and that is by exhaustive comparison; taking first of all the inscriptions of our locality, and then comparing them with those of other cities. When the great work of Mr. Alfred Maudslay is completed, we shall have this opportunity. Meanwhile we have his volumes on Copan,² in which the symbolism and graven glyphs are most admirably drawn, and I have been fortunate in having access to photographs and casts which have never been published. My studies of the graven glyphs have been mainly those of Copan

¹ Read before the Brooklyn meeting of the A. A. A. S., August, 1894.

² In *Biologia Centrali Americani, Archæology*, London, 1889-93.

and Quirigua, although I have made slight comparisons with those of Palenque, Chichen-Itza, and Uxmal. These inscriptions are intimately connected with the symbolism almost invariably found with them, and an understanding of the symbolic masks and ornaments will largely aid us in deciphering the glyphs.

I shall, in this preliminary paper, commence at the very beginning, and consider the glyph, which is at the head of most of the graven inscriptions of Copan, Palenque, Quirigua, Tikal, and Menche. This glyph heads the inscriptions of the three tablets of Palenque, and, in a modified form which I shall refer to later, occurs many times throughout the different inscriptions which we have at present. Where there are two rows of glyphs following, this heading occupies the width of both of them. It is composed of two principal parts, the lower part varying in detail in the different inscriptions. This I think, however, is simply due to the artist's work, and not to any difference as to its meaning. It usually rests on three knobs, resembling the tripod feet of a vessel, and has been termed a brazier by Dr. Valentini. Dr. Rau in his monograph on the Palenque Tablet, gives the Palenque examples as very much resembling the sign for the Maya month Pax, as given by De Landa in "Relacion de los Cosas de Yucatan," p. 254. I am, however, positively able to identify it as the Pax glyph.¹ The meaning of the Maya word Pax is any instrument of music, and the object represented is probably a drum, which would accord with the meaning of the word, and a reference to Plate I., figures 1 to 7, will show the different variations in which the general form is retained.²

Figure 15 is the sign given by De Landa for the month Pax, and the cross-hatched appendage is readily seen to be a leaf by comparing it with figure 14, which is a leaf of the Mezquitl tree; this is taken from an ideograph of the geographical name, Mizquitlan, given in Penafiel's "Nombres Geograficos de Mexico," p. 144. Figure 25 is taken from the Dresden Codex, and shows the same vegetal form seen in the graven glyphs of the headings, and it is also found on the head of the Ococingo glyph given in figure 18. This glyph in the heading is almost invariably surmounted by a serpent's head (figures 1, 2, and 4), or a mask (figures 3 and 7). Rarely, however, a human face in profile (evidently a portrait) is substituted (figure 6). In some instances, where there is a separate inscription on both sides of a monument, a face is given on one side, and the serpent's head or mask on the other. Above this is always a scroll pattern,

¹ Appendix to Stephens' *Incidents of Travel in Yucatan*, vol. i. p. 459.

² Dr. Brinton, in remarks before the Brooklyn meeting of the A. A. A. S., described a drum called Paxal, and his description of the same positively identified this glyph as representing a drum.

the meaning of which I am unable to make out. On each side of the serpent's head or face is always a form which has puzzled archæologists (see figures 1 to 7). This sometimes extends below the face to the bottom of the lower character, as in figures 1, 2, and 5. I find by comparison that this is a vegetal form, sometimes resembling a leaf just budding, and again it is represented as a flower with the stamens showing, and also as the section of a fruit, showing the seeds perhaps of the cacao.¹ I have brought together a few forms of the flower and fruit, as depicted in the glyphs and symbolism of Copan, which show the evolution of the vegetal form to that as shown in the heading. Figures 8 and 9 show this flower form. In figure 17 the upper part of the glyph shows clearly the section of a fruit, which, if separated, appears on either side of the mask in figure 3. This same form is seen in a number of the headings of Copan. Figure 23 shows this same fruit form in connection with the glyph Imix, a day sign given by De Landa, and its probable meaning is corn. This Imix glyph is peculiar in having an inverted Ahau (another day sign) in place of the customary black spot. Figure 19 shows a flower form with the seeds. Figure 21 is the arm of a seated figure at Copan, which holds something resembling a bouquet. In figure 22 the second part of the glyph is a flower, the end of the stem being a serpent's head. Many other examples of a vegetal form might be given from the sculptures of Copan, but these few examples are sufficient to establish the identity of the same in the heading. In three instances there is a fish substituted for the vegetal form. These examples are in Copan, and are on Stelæ C and D. Stela C, which has a human figure on each side, has two inscriptions; in the heading of one (figure 7) is a mask, and in the other is a face (figure 6) very much resembling that on the jadeite head, from Ococingo, Guatemala, in the Squier collection of jadeites in the American Museum of Natural History, New York (figure 18). The other instance of the fish occurring as part of the heading is in the pictographic inscription of Stela D, where a human figure is behind the Pax glyph, with the head and shoulders above, and the left arm in front. This occurrence of the fish as a substitute for the vegetal form is not surprising, for we find on several of the Copan monuments a fish and flower associated together (figures 8 and 9), as pointed out by Mr. Alfred Maudslay, who further states that it also occurs at Chichen-Itza and Palenque.

We thus find the heading to be the month Pax, surmounted either

¹ "Cacao was used as money formerly in Guatemala, and only chiefs and warriors permitted to drink it." Carta Dirijida, *Palacio*, p. 37. It was planted with great ceremony in the month Muan, the month preceding Pax.

by a serpent's head, a mask, or a human face, associated with a vegetal form, or, rarely, a fish, above the whole of which is a scroll.

I shall now consider several of the numerous instances where this occurs in the inscriptions proper, for it is always to be recognized wherever seen. On Stela B of Copan we find the Pax sign to be the tenth glyph from the heading (see figure 10). Above the glyph are the vegetal forms, but instead of a face or serpent's head we find a sign very much resembling that for the Maya day Cauac, and from an examination of the day glyphs of the Dresden, Cortesianus, and Troano Codices, I am satisfied it is the same.

The month Pax commences May 12, and includes the rest of the month of May. It is just before the beginning of the rainy season, and showers with thunder and lightning occur, foretelling the coming of the wet season. Dr. Brinton has given the meaning of Cauac as "lightning and thunder,"¹ which makes the sign one which we would naturally expect to find associated with the sign for this month. Moreover, the serpent which appears with the Pax glyph in the heading is a water emblem, and the snake character of Quetzalcoatl is that of his attributes as a bringer of rain. This glyph of Stela B has the numeral 15 preceding it. The glyph following (see figure 11) represents a hand out of which seeds are falling. The fingers rest upon an object which I do not recognize, but it may represent the earth into which the seeds are to be placed. Close to the thumb of the hand is an object which I can only explain by comparing it with a glyph (figure 23) of Stela J, Copan. This is a conventionalized animal, above a Pax sign, which resembles a frog more than anything else. If it is a frog, it is an emblem of water. The head only is placed with the hand glyph, in figure 11, and it is entirely appropriate to find an emblem for water associated with sowing seed. This association of a hand dropping seed with the emblem of the month Pax is seen again at Quirigua (see figures 12 and 13), and there is an example on the Tablet of the Cross, Palenque, only that the hand is represented as holding the seed and not dropping it. In the last two examples, that of Palenque is similar to that of Copan in that the Pax glyph is above the hand. In that of Quirigua the hand is above the Pax sign.

There are several instances at Copan where the Pax glyph has a flower with seeds on the left of it, and I have given one example in figure 19.

I now come to the peculiar significance of this glyph, and to the reasons why it should be so prominent both as a heading and associated with sowing. As it is the introduction, so to speak, of these inscriptions, let us clearly understand its component parts, the sign

¹ *Native Calendar of Mexico and Central America*, 1893, p. 288.

for the month Pax, above which is the serpent, an emblem of water, and also an emblem of Kukulcan or Quetzalcoatl, and a vegetal form. The month Pax is the time for planting in Central America,¹ and it is also the close of a most trying season, when all nature has been so scorched and withered as to have become almost dead. I have noticed that instead of being brown at the close of the hot season, as it is with us in autumn, in Yucatan and Central America the whole aspect of the country is gray like ashes, and the heat and discomfort arising therefrom are almost unbearable. In Central America, during the months of January and February, the natives select a place for their gardens, from which the trees are cut down and burned, and in May, or the Maya month Pax, they sow the maize which has always been the great staple of the country.² It is also the time when showers coming from the east begin to fertilize the earth and to revive vegetable life. So far as we know, the great deity of the ancient Mayas was Kukulcan the serpent bird, who is a personification of the east wind which brings the fertilizing rains. The old Spanish priests who lived in Mexico and Central America soon after the conquest, and upon whom we have to rely for information regarding the habits and customs of the Nahuas and Mayas, state that the principal ceremonies of both peoples were in May, at the end of the dry and the commencement of the rainy season. Fray Diego Garcia de Palacio, in a letter to the king of Spain, written in 1576, states that they had each year two principal and very solemn sacrifices, — one at the commencement of summer and the other at the beginning of winter. He further states that they had peculiar ceremonies at the time of planting, which is in the month of Pax.³ Milla states that the

¹ "Siembran in muchas partes, por si una faltare supla la otra. En labrar la tierra, no hazen sino coger la vassura y quemarla para despues sembrala; y desde medio enero hasta abril labran, y entonces con las lluvias siembran, lo qual hazen, trayendo un taleguillo a cuestras, y con un palo puntiagudo hazen agujero en tierra y ponen alli cinco o seis granos, lo qual con el mesmo palo cubren. En lluyendo, espanto es como nace. Juntanse tambien para la caca de 50 en 50, mas o menos, y la carne del venado assan en parrillas, porque no se les gaste, y venidos al pueblo, hazen sus presentes al Senor, y distribuyen como amigos." De Landa, *Relacion de los Cosas de Yucatan*, pp. 130-132.

² "Indian corn, however, is the great staple, and the cultivation of this probably differs but little now from the system followed by the Indians before the conquest. In the dry season, generally in the months of January and February, a place is selected in the woods from which the trees are cut down and burned. In May or June the corn is planted." J. L. Stephens, *Incidents of Travel in Yucatan*, vol. i. p. 233.

³ The superstitious ceremonies at the time of planting their fields were as follows: They put in little cups of calabash the seeds which they had selected for the purpose, and placed them before the altar of their idols. They next dug a trench in the ground, in which they planted the seed regularly, covering them

Indians of Guatemala made solemn sacrifices twice a year, at the coming and going of the rainy season, and also before they do their planting, burying a certain portion of the seed which they are to sow before the altar of the idol, and burning above hule and copal. The priests draw their blood and offer it to the gods, petitioning for an abundant harvest.¹

At these most solemn feasts human sacrifices took place, and the following prayer was offered at the end of the dry season, in May, during the feast which took place at that time :—

“Lord, hear us, for we are thine! Give us health, give us children and prosperity, that thy people may increase. Give us water, and the rains, that we may be nourished and live! Hear our supplications, receive our prayers, assist us against our enemies, and grant us peace and quiet.”²

Fray Diego de Landa, who gives us the signs for the days and months of the Maya year in his “*Relacion de los Cosas de Yucatan*,” states that in Yucatan, “In the month Pax they celebrated a feast called Pacum-Chac, on which occasion the nobles and priests of the inferior boroughs assembled with those of the important villages. The feast commenced with ceremonies and sacrifices of fire similar to those which took place in the month of Mac, when a feast was celebrated in honor of the Chacs, the gods of abundance, and also to Yzamna . . . in order to obtain an abundance of water for their crops during the year.”³

Among the Nahuas of Mexico the most solemn festivals were held at this time. Fray Diego Duran, in his “*Historia Antigua de la Nueva Espana*,” 1585, states that “a great and solemn feast, equalling that to Huitzilopochtli, was celebrated to Texcatlipoca. . . . They celebrated this feast on the 19th of May. . . . A flute was blown first to the north, then to the east, south, and west, whereupon all with earth, and over all they placed a brazier full of burning coals, on which they sprinkled copal and hule. The four priests then drew blood from their ears and nose, receiving it in certain large reeds, which they burned before their idols. At other times they drew blood from their tongues and private members, and petitioned their gods to prosper the fruits of the earth, and give them abundant harvests. The high-priest, in sacrificing, drew blood from the same parts, and with it anointed the feet and hands of the idols, invoking the demon, who spoke with him and told him what kind of weather would follow, all of which was communicated to the people by the four priests, who always concluded by ordering the men to attend assiduously to their marital duties, and such was the sacrifice of planting.

¹ Milla, *Historia de la America Central*, vol. i. p. xl. Guatemala, 1879.

² From *Popol Vuh*, the sacred book of the Quiches of Guatemala.

³ “They always have two captains, one perpetual and hereditary, and the other chosen every three years, who preside over the feast which they celebrate in the month Pax. . . . To these captains they give the name Nacon.” De Landa, p. 172.

knelt to the earth, and, taking up a little in their fingers, ate the same. The soldiers and valiant men spent the day in listening to the music, celebrating Texcatlipoca, Huitzilopochtli, Cihuacoatl, Quetzalcoatl,¹ and the Sun, which are the principal gods whom they adore. The god Huitzilopochtli² had a great festival at this time, as he was the god of the plant world, and his arrival was ushered in with hymns praying for rain."

It is clearly evident that during our month of May, the month of Pax among the Mayas, great and important ceremonies were performed both among the Nahuas and Mayas.

It was primarily their planting time, and their lives depended upon the success of their crops. The god Kukulcan of the Mayas was at once the god of the east wind which brings the rain, and also the rain-god himself, probably having the attributes of the Nahuatl rain-god Tlaloc,³ and of the sun Huitzilopochtli who was the god of war. These various attributes seem to be indicated by a study of the symbolism of the idols of Copan and Quirigua.

The conclusion from the foregoing study would be that the inscriptions beginning with the heading in which the Pax glyph occurs relate to ceremonies taking place at that time to the god Kukulcan.

The occurrence of the Pax glyph in the text, with the hand sowing seed, and again with a flower with seed, also bear out this conclusion, and we may safely infer that the inscriptions, so far as these single glyphs are concerned, relate to the ceremonies of planting. An analysis of all of the glyphs of these inscriptions is necessary, and this will surely be accomplished by an identification of the various parts of the glyphs, and tracing the variation and evolution of these parts from natural objects into conventionalized objects and signs. This cannot be done at present, for but few of the inscriptions have yet been carefully drawn, but we shall hail with pleasure the appearance of the other parts of Maudslay's work, and the publication of the material obtained by the Peabody museum expeditions.

¹ "Quetzalcoatl, they said, cleared the way for the god of water, because in these countries rain is generally preceded by wind." Clavigero, *The History of Mexico*, p. 250, tom. i.

² "Huitzilopochtli or Mexitli was the god of war, the deity the most honored by the Mexicans, and their chief protector." *Op. cit.* p. 254.

³ "Huitzilopochtli was a derivative form or determination of the sun, and specifically of the sun of the fair season. He had three great annual festivals. The first fell in May, at the moment of the return of flowering vegetation." Reville, *Hibbert Lectures*, 1884, p. 51.

⁴ "Tlaloc was the god of water. They called him the fertilizer of the earth, and protector of their temporal goods." Clavigero, p. 251.

EXPLANATION OF PLATES.

PLATE I.

- Fig. 1. Heading of inscription, Stela A, Copan, Honduras.
2. Heading of inscription, Altar S, Copan, Honduras.
5. Heading of inscription, Stela I, Copan, Honduras.
4. Heading of inscription, Stela F, Quirigua, Guatemala.
5. Heading of inscription, Tablet of the Cross, Palenque, Chiapas.
6. Heading of inscription, Stela C, Copan, Honduras, south side.
7. Heading of inscription, Stela C, Copan, Honduras, north side.
8. Flower and fish symbolism on altar T, Copan, Honduras.
9. Flower and fish symbolism on southern front of Stela N, Copan, Honduras.

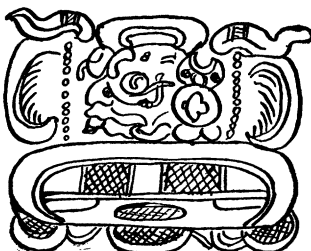
PLATE I.



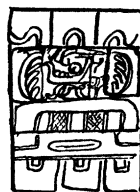
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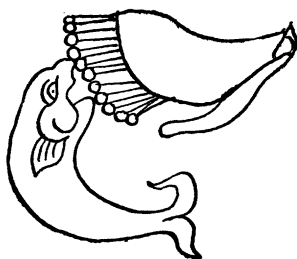
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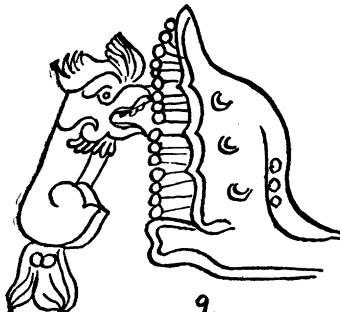
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PLATE II.

- Fig. 10. Glyph 19 of inscription, Stela B, Copan, Honduras.
11. Glyph 20 of inscription, Stela B, Copan, Honduras.
12. Glyph 11 of inscription, Stela B, Quirigua, Guatemala.
13. Glyph 13 of inscription, Stela B, Quirigua, Guatemala.
14. Leaf of Mezquitl, from Penafiel's "Nombres Geograficos de Mexico," p. 144.
15. Maya month Pax, given in De Landa's "Relacion de los Cosas de Yucatan," p. 264.
16. Glyph 23 of inscription, south side of Stela J, Copan, Honduras.
17. Glyph 19 of inscription, south side of Stela J, Copan, Honduras.
18. Glyph on jadeite bead from Ococingo, Guatemala. Preserved in Amer. Mus. of Nat. Hist., New York.
19. Glyph on step in Temple 22, Copan, Honduras.
20. Hat on human figure, seated on glyph in figure 22. Step in Temple 11, Copan, Honduras, shows Quetzal as a priest's insignia.
21. Flower or bouquet held in priest's hand. This priest is sitting on glyph in figure 23. From a carved step in Temple 11, Copan, Honduras.
22. Glyph 6 in inscription on step, Temple 11, Copan, Honduras.
23. Glyph 10 in inscription on step, Temple 11, Copan, Honduras.
24. Glyph 26 in inscription on step, Temple 11, Copan, Honduras.
25. Pax glyph in Plate 58, Dresden Codex.

PLATE II.

